

Appl. Serial No. 10/632,153
Amendment dated February 7, 2005
Reply to Office Action dated November 9, 2004

Amendments to the Drawings

The new set of formal ink drawings (10 sheets) are to replace the original drawings, as requested by the Examiner. In Figs. 1, 3, 4, and 7, certain missing reference numerals have been added to the drawings. Five sheets of drawings containing Figs. 8a-8d and 9-14 replace the corresponding sheets of informal drawings.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

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REMARKS/ARGUMENTS

Applicant has submitted a new set of drawings (10 sheets). In Figs. 1, 3, 4, and 7, certain missing reference numerals were added to the drawings, and new sheets of formal drawings containing Figs. 8a-8d, and 9-14 were submitted to replace the corresponding sheets of formal drawings.

Claims 1-61 remain in the application, with claims 27-28, 30-35, 37-43, 45, 46, 48-52, and 54-60 having been allowed, and with claims 5-7, 10, 13, 14, 16, 18-23, and 26 having been indicated to be directed to allowable subject matter.

In order to more particularly and definitely define the subject invention, Applicant has amended parent claim 1 upon which rejected claims 2-4, 8-10, 12, 15, 17, 24, and 25 depend. The remaining claims were amended to correct certain matters of form raised by the Examiner.

Allowance of the claims is courteously solicited for the following reasons.

According to Applicant's invention as defined in amended claim 1, the vessel 2 is propelled in a given direction of propulsion V by propulsion means including a propulsion device 6 that is immersed in the water. The propulsion device rotates about an axis 10 that is normal to the direction of propulsion, which propulsion device has a circumferential surface that cooperates with a cover 8 to define a "water conveying channel when the propulsion device is operated" (Page 2, lines 21-24). The "distance between the cover and the propulsion device is chosen such that, when the propulsion device is operated, the water surrounding the vessel is conveyed by the propulsion device into the gap between the front end of the propulsion device and the cover and the air therein is forced out of the gap" (Page 3, lines 6-10). When "the toothed wheel 6 is not turning, there is air in the gap 54 above the waterline between the cover 8 and the toothed wheel 6. . . . Initially, the toothed wheel 6 turns slowly due to its inertia and carries the surrounding water into the gap 54 by means of the forward leading edge 50 of the

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respective tooth 46. With an increasing rotation speed of the toothed wheel 6, the air in the gap 54 is fully removed in the rotation direction of the toothed wheel. The water flows continuously around the gap 54 in the rotation direction D. In other words, operation of the toothed wheel 6 results in a water conveying flow channel being formed between the toothed wheel and the cover 8" (Page 19, lines 11-17).

It is courteously contended that Applicant's invention as recited in the amended claim 1 is clearly patentably distinguishable from the teachings of the cited Kisevalter patent No. 1,701,925. In this cited patent, a full 2 is provided with a propulsion device (6) having a plurality of teeth and rotating in a direction essentially perpendicular to the direction of propulsion. The propulsion device is partially immersed in water. Further, there is provided a cover partially surrounding the circumference of the propulsion device. This cover prevents any water which is taken with the rotation propulsion device from being thrown on the upper surface of the hull. Accordingly, the cover known from Kisevalter is nothing else but the fender of an automobile. As evident from Page 1, lines 41-44 of this prior art document, the circumference of the propulsion device comprises teeth in order to meet the surface of the water without a shock and to avoid raising of any appreciable waves.

There is no indication in Kisevalter to adapt the propulsion device and the cover in such a way that a water conveying flow channel in which water is continuously conveyed when the propulsion device is operated in order to provide a jet which drives the marine watercraft. This principle, however, is specified in claim 1 as amended and has proven to drastically improve the pull of the vessel propulsion system as described in further detail on Page 2, third paragraph of the description. Kisevalter, however, is completely silent about specifically adapting the distance between the cover and the propulsion device to obtain the continuous flow around the cover.

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This is particularly evident from Fig. 3 showing a boat with a smaller wheel (14) for influencing the direction, which likewise comprises a teathed circumference. However, there is no cover surrounding this smaller wheel. Accordingly, the circumferential structure of the smaller teeth aims to provide the advantages discussed on Page 1, lines 41-44, but cannot effect the continuous flow of water with the rotational direction of the smaller wheel.

In the cited Ives patent No. 4,848,091, a rotating propulsion device is disclosed including a belt (10) and a plurality of ribs (46). The belt essentially operates as a chain of track-laying vehicle with the only difference that there will be slip between the "surface"; i.e., the water and the belt if the vessel known from Ives is used in water. However, Ives is completely silent about any water conveying flow channel as recited in amended claim 1. In Ives, the hull surrounding the belt is not adapted to provide a gap between the outer surface of the belt and the hull suitable for circumferentially conveying water and removing any air when the propulsion device is operated, said air being usually comprised between the belt and the hull.

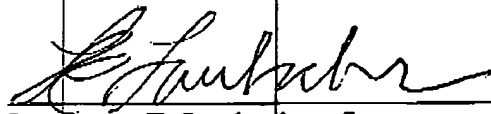
Similarly, none of the remaining references -- either when taken alone or in the light of the remaining patents -- presents any teaching of Applicant's invention as recited in the amended claims.

Kindly charge any Government fees resulting from the entry of this Amendment to Account No. 12-0605.

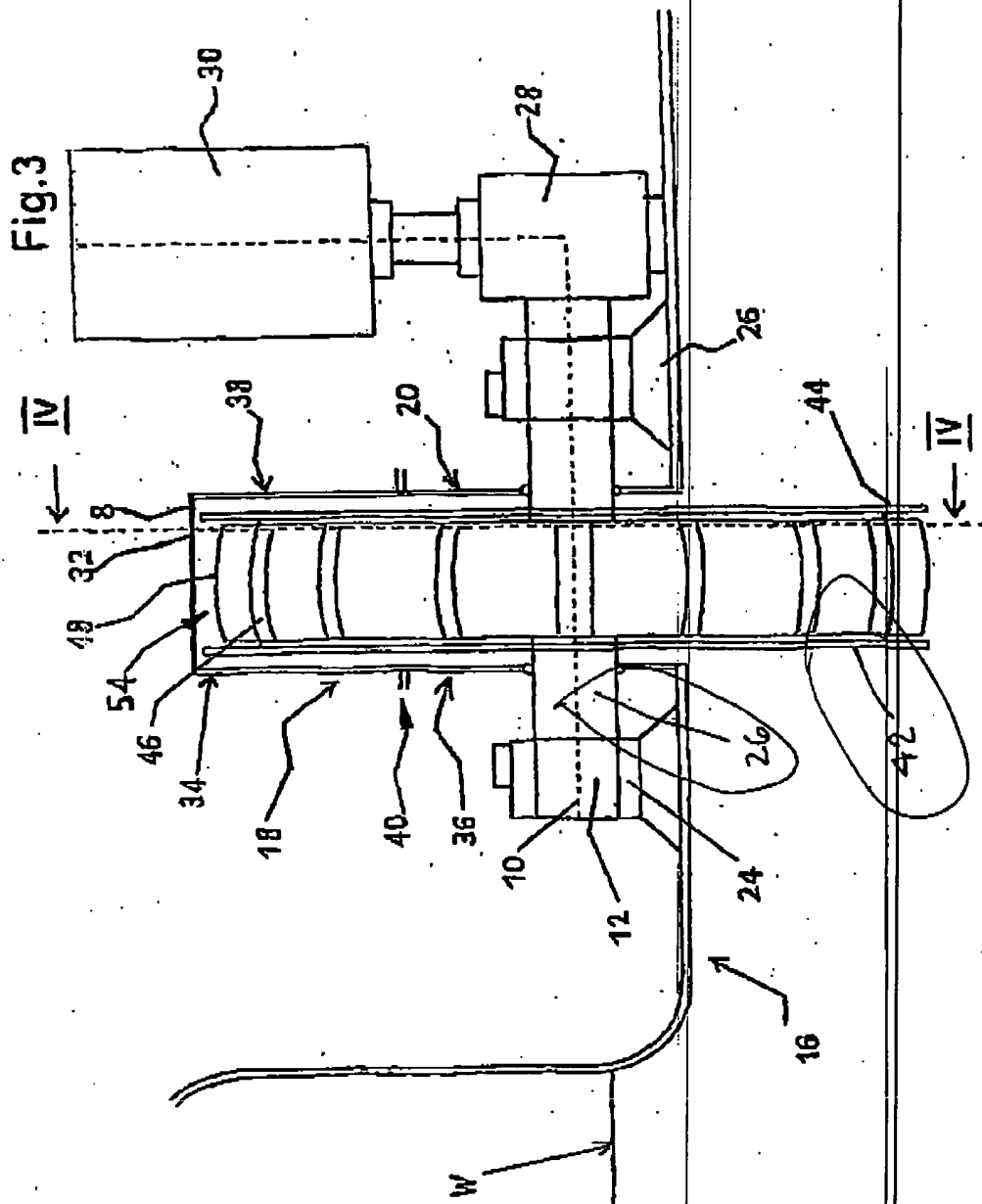
Favorable action is courteously solicited.

Respectfully submitted,

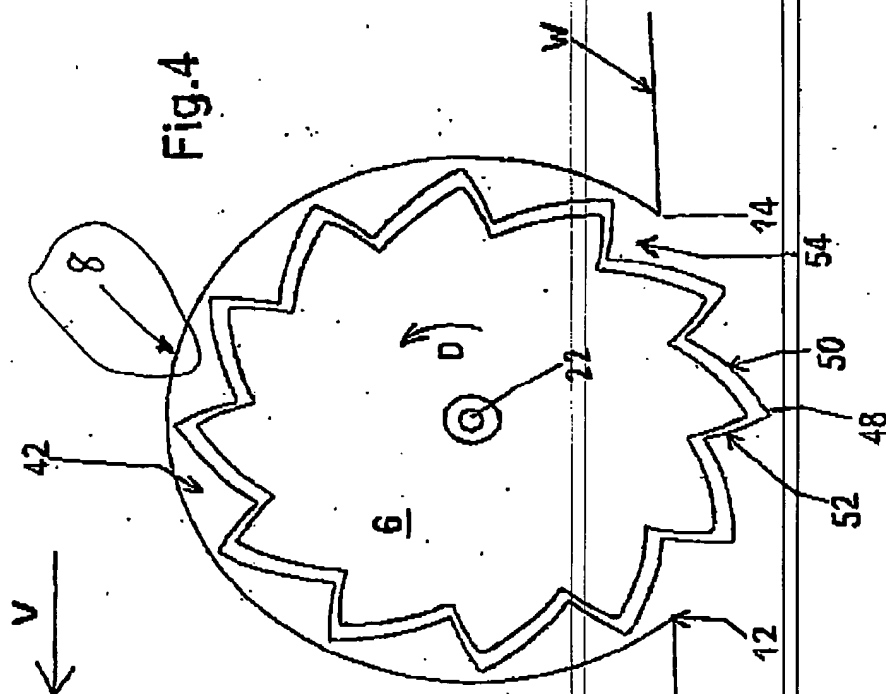
2/8, 2005


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Fig.5

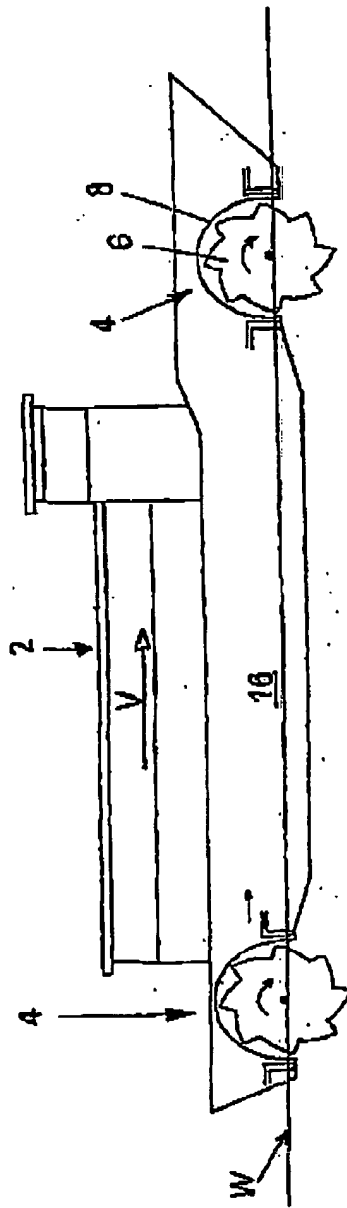
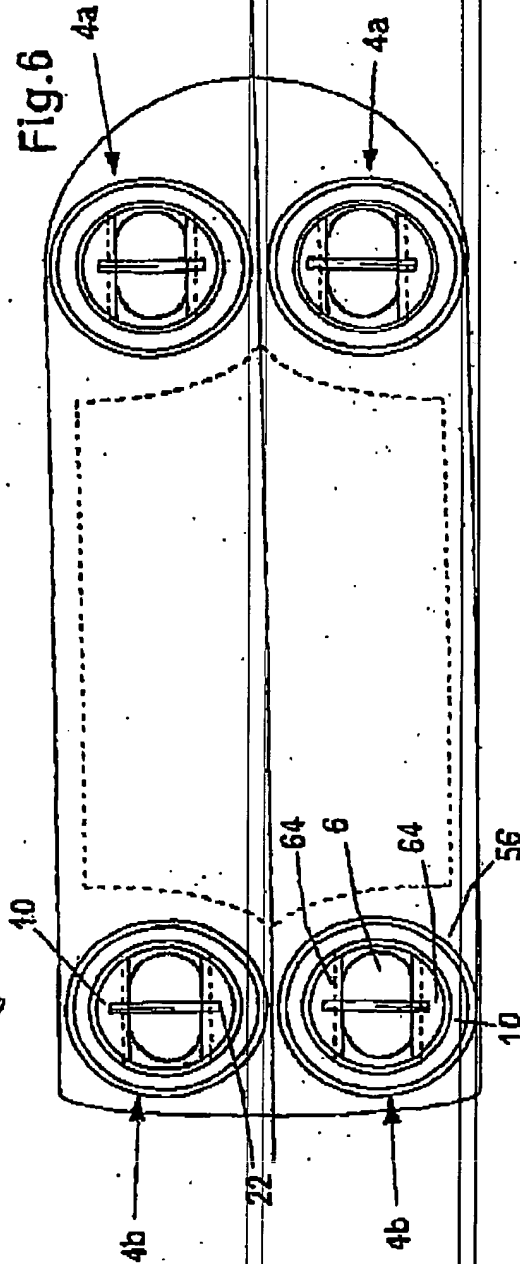
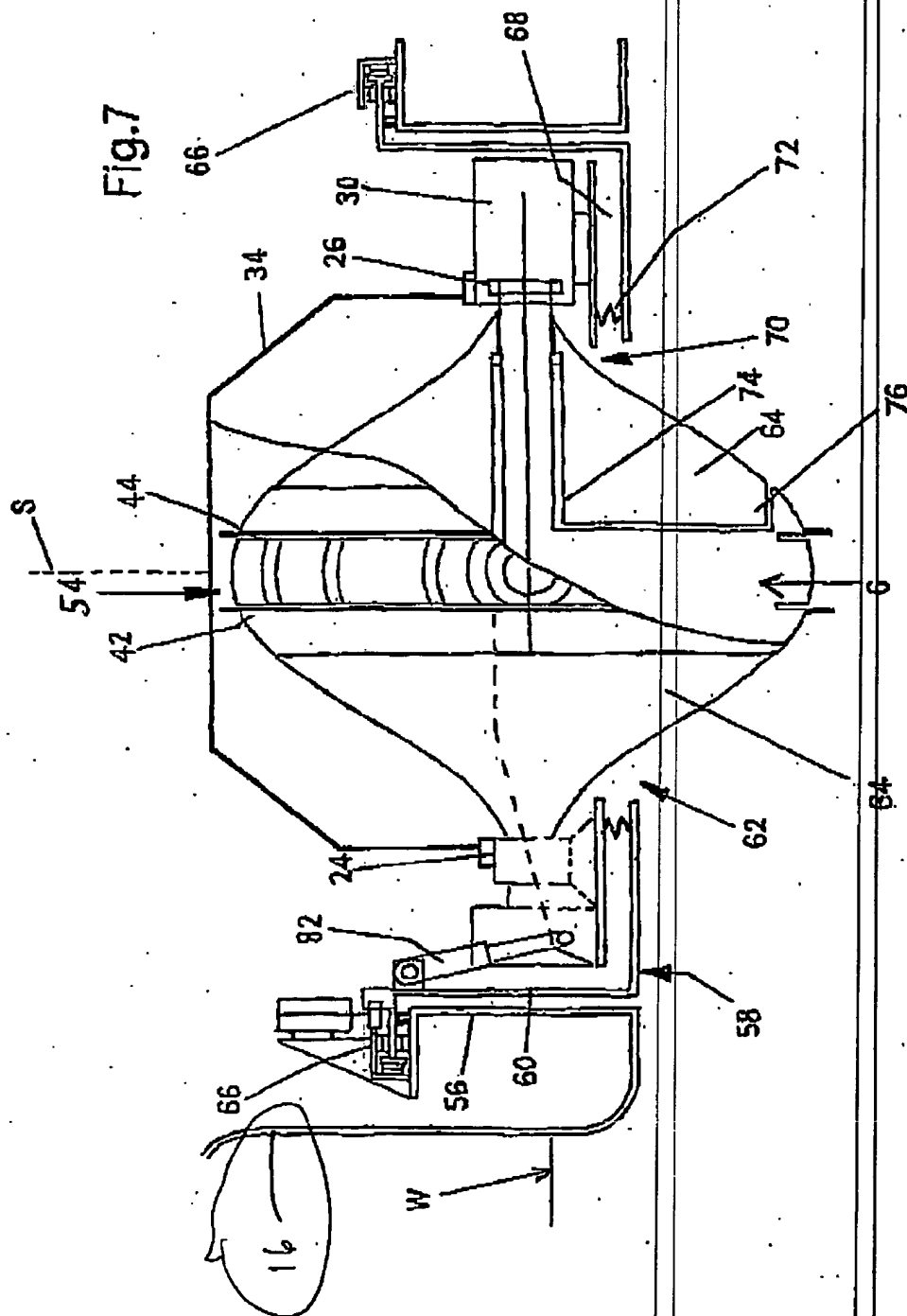


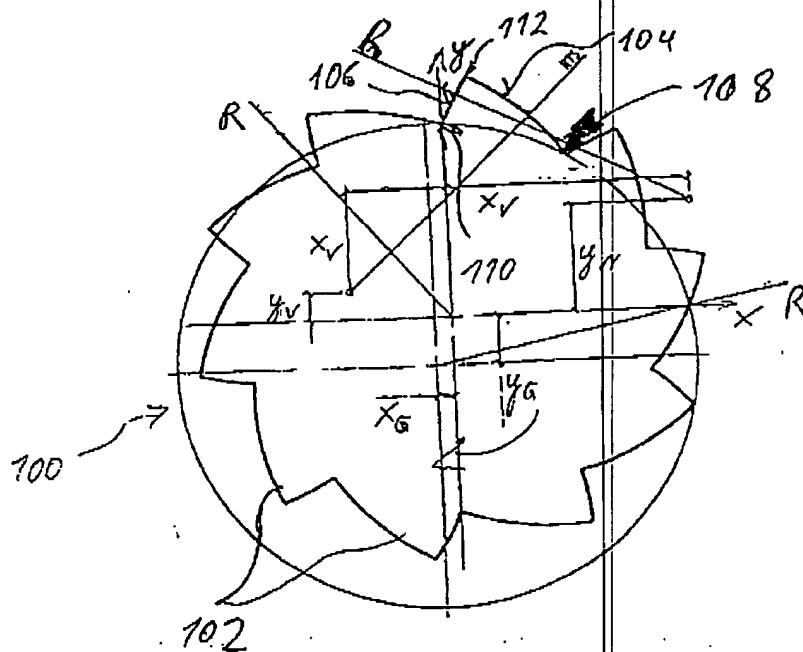
Fig.6



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Eq 8a

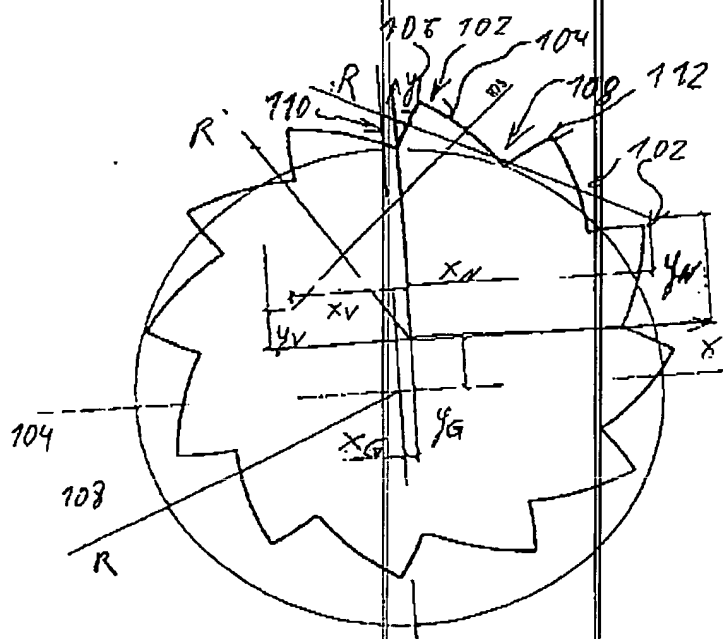
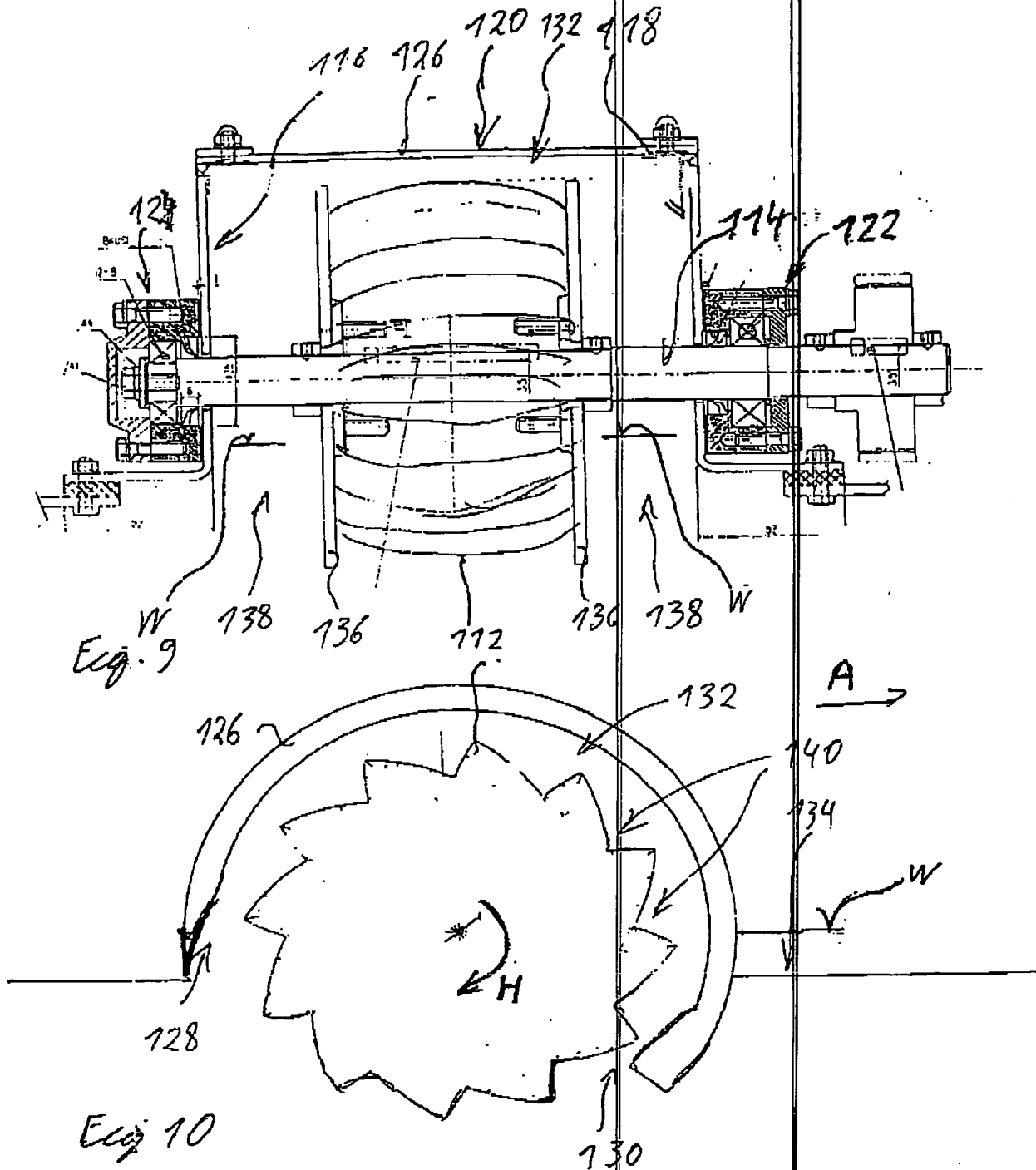
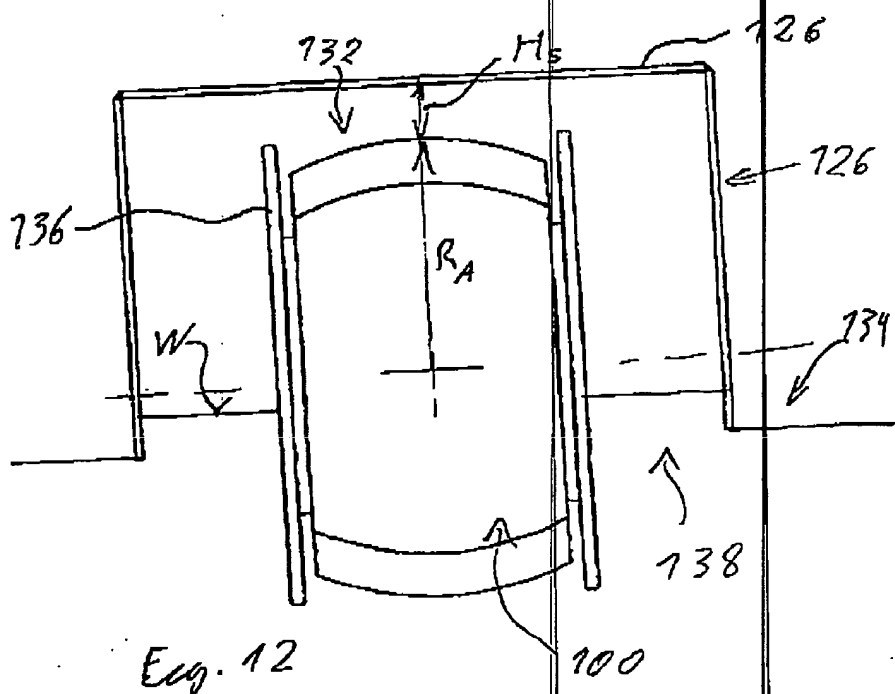
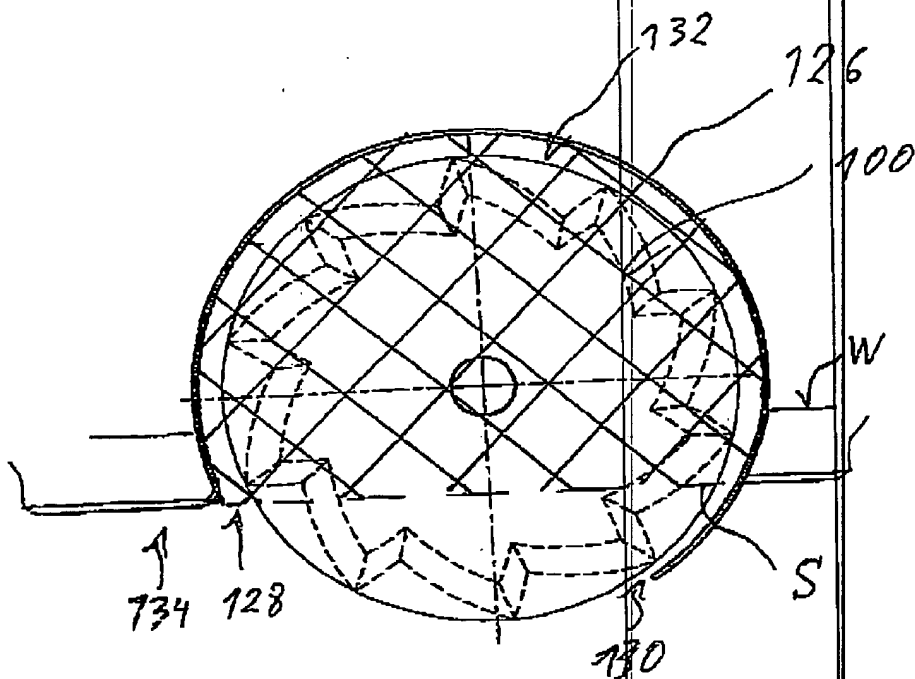


Fig. 86

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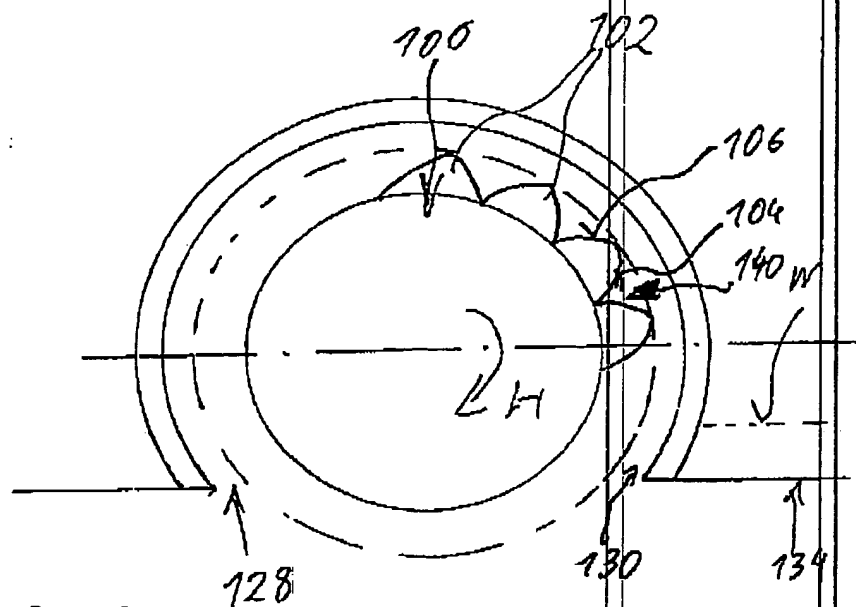


Fig. 13

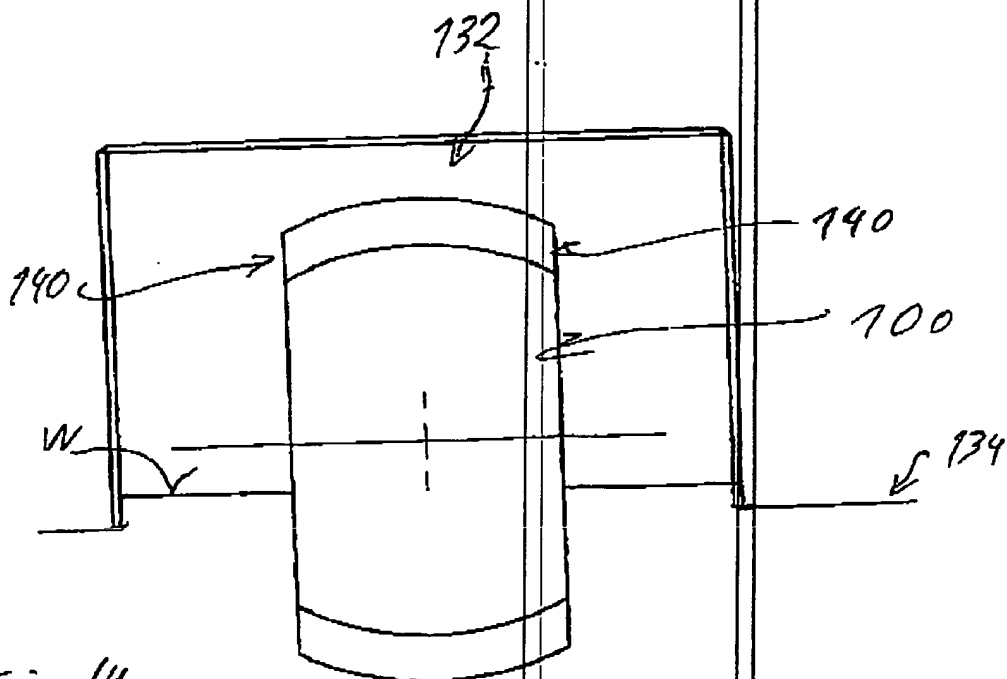


Fig. 14

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